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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/206,027

12/04/98

24/6/98

COHEN

B

AMAT/3049/MD

2/22/97

IM62/0217

EXAMINER

VINH, L

APPLIED MATERIALS INC
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ART UNIT

PAPER NUMBER

1765

DATE MAILED:

02/17/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/206,027

Applicant(s)
Cohen et al.

Examiner
Lan Vinh

Group Art Unit
1765



☒ Responsive to communication(s) filed on 12/4/98

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) 1-17 is/are pending in the application

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-17 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3, 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "etch rate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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4. Claims 1-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 09/309606 in view of Komura et al. (US 5,423,941). Although the conflicting claims are not identical , they are not patentably distinct from each other because the claims in the copending application 09/309606 exposes a patterned dielectric layer to a first plasma (predominantly argon) and a second plasma (95 % of helium and 5 % of hydrogen) to form a mixture of argon, helium and hydrogen in a same processing chamber.

09/206027	09/309606
Instant application claim(s)	Copending application claim(s)
1-2, 4-6, 8-9, 11-12,	1-3, 5-8, 10-15, 18-19
14, 16	
3, 10, 15	4, 9, 16-17
7, 17	20

Claims 1-20 of copending application 09/309606 meet all the limitations of the instant claimed invention except the step of increasing the content of helium gas to increase the etching rate of the patterned substrate surface.

Komura discloses a dry etching process for semiconductor comprises a step of increasing the flow rate (content) of helium to increase the etching rate and selectivity against the dielectric layer (Col 6, lines 34-39).

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It is the examiner's position that one skilled in the art would have found it obvious to modify the method of application 09/309606 by adding a step of increasing the flow rate (content) of helium to increase the etching rate as per Komura because a high helium flow rate enhances the single crystal silicon etch rate in order to achieve a high degree of etch rate uniformity of the patterned surface.

This is a provisional obviousness-type double patenting rejection.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yanagida (US 5,726,097) discloses employing plasma containing helium and argon to clean metal. Tatsumi (US 5,266,154) discloses a dry etching method using a plasma containing inert gases.

Conclusion

6. Any inquiry concerning this communication should be directed to Lan Vinh whose telephone number is (703) 305-6302. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Utech, can be reached on (703) 308-3836.

LV

February 14, 2000


BENJAMIN L. UTECH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700